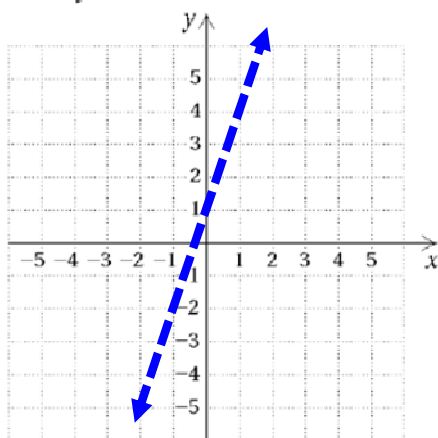


Slope

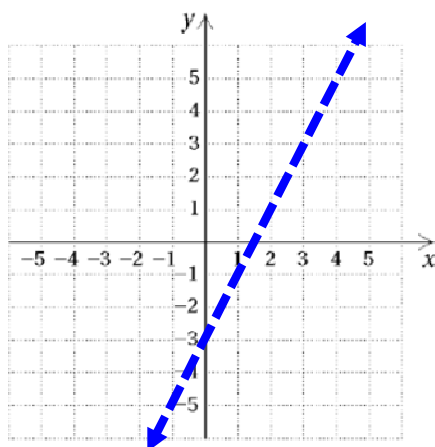
December 8, 2009

1. $y = 3x + 1$



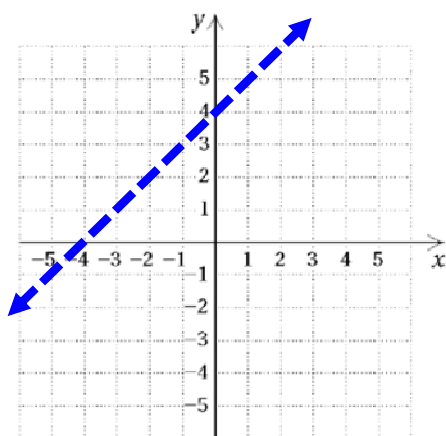
X	Y
-1	-2
0	1
1	4

2. $y = 2x - 3$

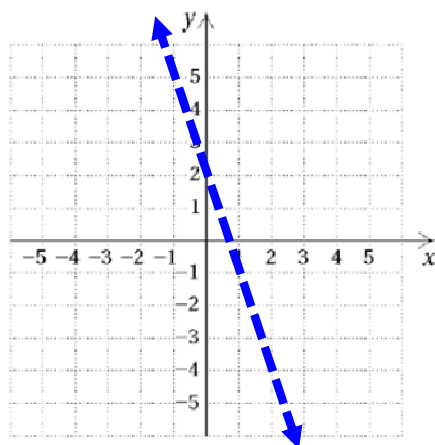


x	y
2	1
0	-3
1	-1

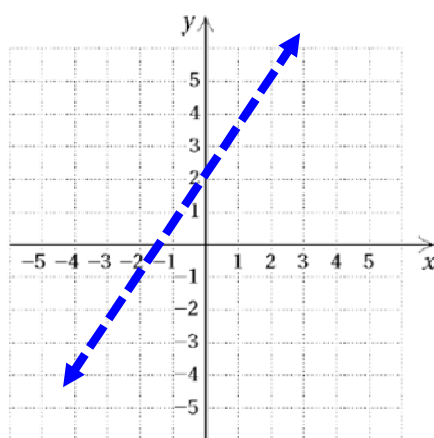
3. $y = x + 4$



4. $y = -3x + 2$

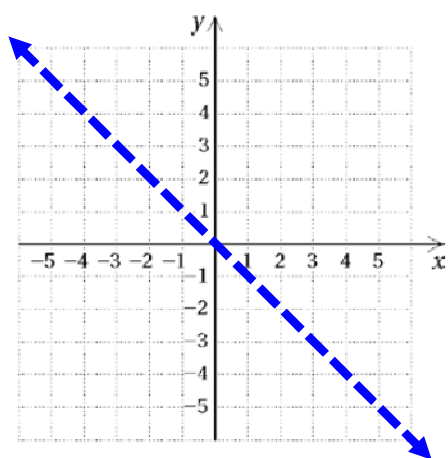


5. $y = \frac{3}{2}x + 2$

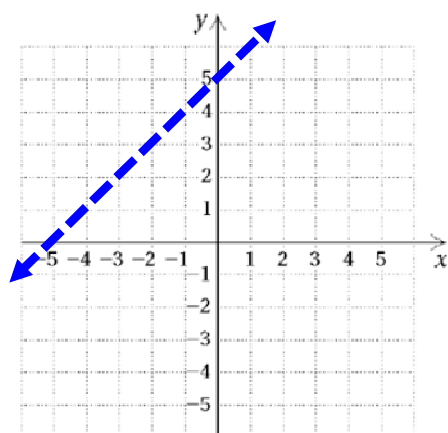


$$\frac{3}{2} = 1\frac{1}{2} = 1.5$$

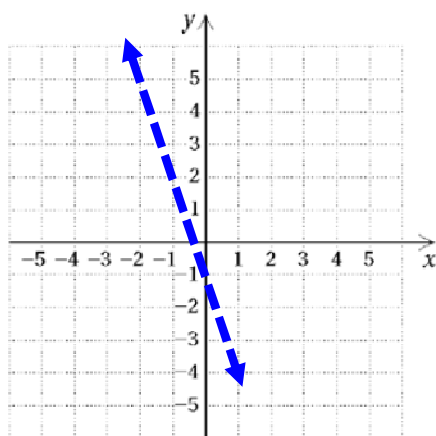
6. $y = -x$



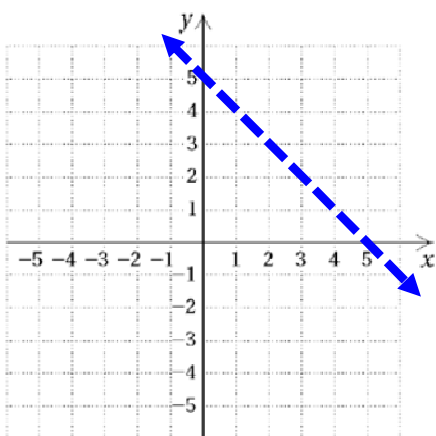
7. $y = x + 5$



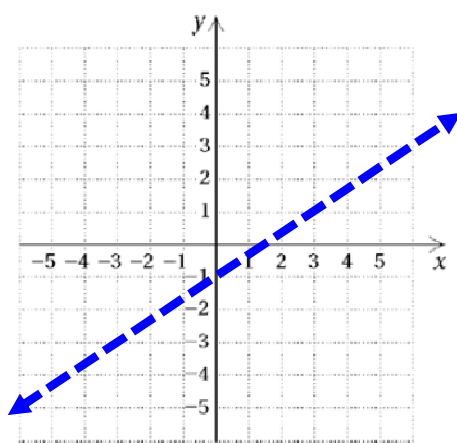
8. $y = -3x - 1$



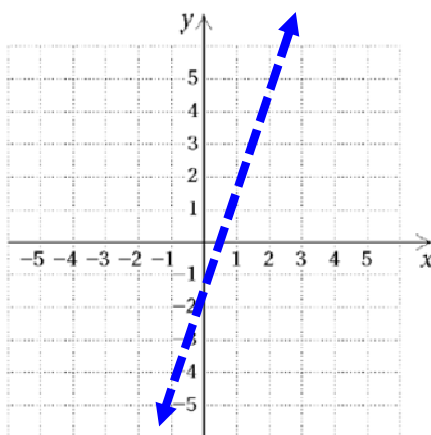
9. $y = 5 - x$



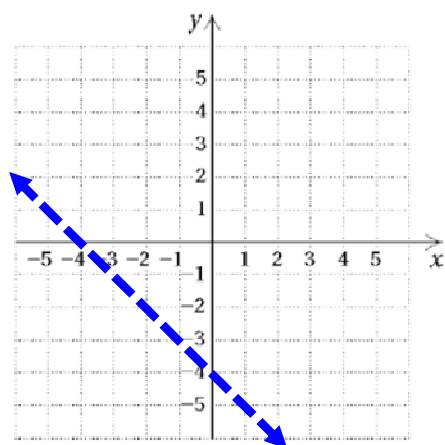
10. $y = \frac{2}{3}x - 1$



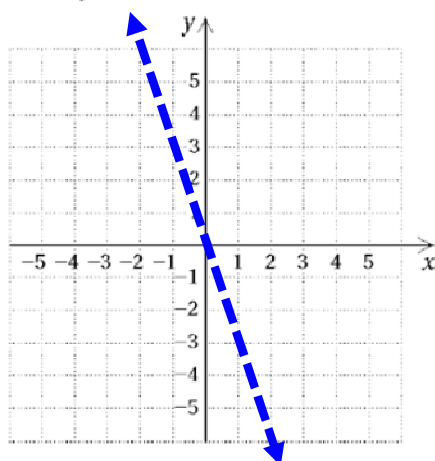
11. $y = 3x - 2$



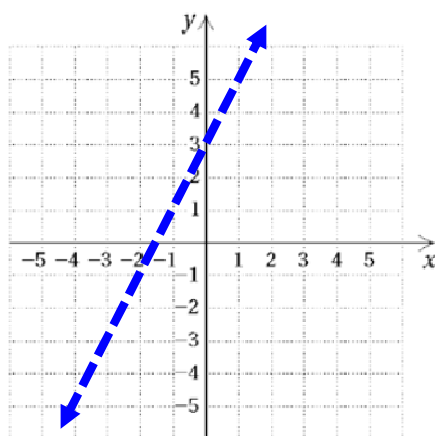
12. $y = -4 - x$



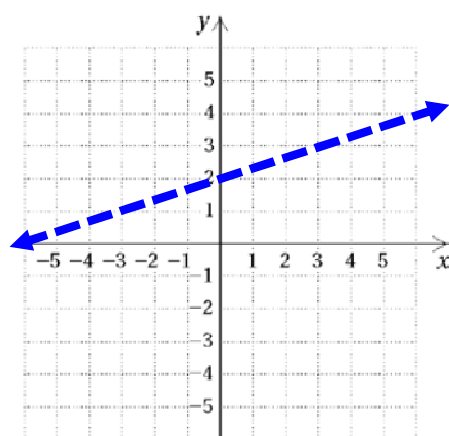
13. $y = -3x$



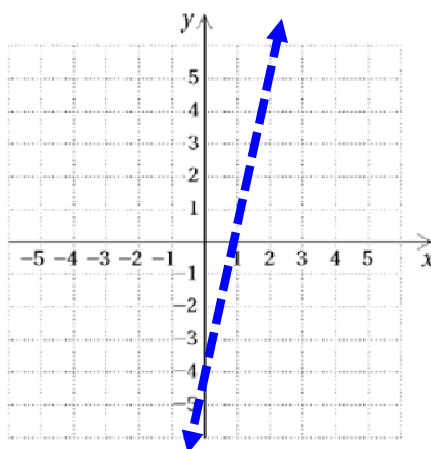
14. $y = 2x + 3$



15. $y = \frac{1}{3}x + 2$



16. $y = 5x - 4$

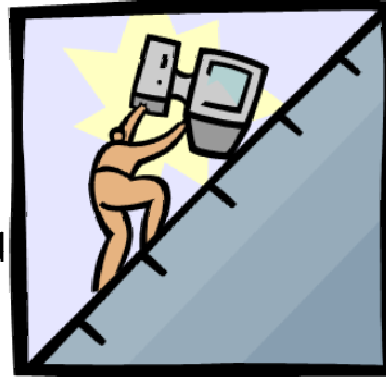


Objectives

- Find the slope of a line
- Find the slope between two points ✓

What is slope?

- Slope is a way of describing the steepness of a line.
- The steepness is described in terms of horizontal (x) change and vertical change (y).



positive

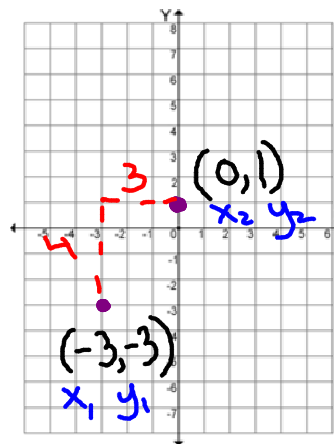
negative

The formula for slope

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{\Delta y}{\Delta x}$$

(x, y)

$$\frac{1 - (-3)}{0 - (-3)} = \frac{4}{3}$$



$\frac{4}{3} = \text{slope}$

Finding slope

- Label x_1 , y_1 , x_2 , and y_2 .
- Insert these values into:

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{\Delta y}{\Delta x}$$

- Solve and simplify as much you can.

Try these

(1, 2), (7, 8)

x_1, y_1, x_2, y_2

$$m = \frac{8 - 2}{7 - 1} = \frac{6}{6} = 1$$

$$m = \frac{2 - 8}{1 - 7} = \frac{-6}{-6} = 1$$

Try these

(1, 5), (-10, 2)

$$m = \frac{2-5}{-10-1} = \frac{-3}{-11} = \frac{3}{11}$$

Try these

(10, 3), (-10, 12)

$$m = \frac{12-3}{-10-10} = \frac{9}{-20} = -\frac{9}{20}$$

Try these

(100, 200), (98, 208)

$$m = \frac{208-200}{98-100} = \frac{8}{-2} = -4$$

Your assignment

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